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ABSTRACT

This curriculum unit focuses on the contributions of the ancient Mayan people and how these contributions have been interwoven with contemporary society. The unit is divided into the following sections: (1) "Preface"; (2) "Mayan Civilization" (geography); (3) "Mayan Contributions" (written language); (4) "Mayan Contributions" (textiles); (5) "Mayan Textiles" (literature selection: "Abuela's Weave"); (6) "Mayan Influence in Guatemala and Mexico"; (7) "Mayan Contributions" (mathematics); (8) "Appendix"; and (9) "Sources Consulted." Lessons include standards, essential skills, historical background, vocabulary, procedures, materials, questions, background notes, map work, and quizzes. (BT)

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MAYAN INDIGENOUS SOCIETY IN GUATEMALA AND MEXICO: A THEMATIC INTEGRATED UNIT ON THE CONTRIBUTIONS OF THE MAYA BOTH PAST AND PRESENT

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Gale Holdren

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Michelle Suchenski
Fulbright-Hays Summer Seminar Abroad Program-Mexico and Guatemala
United States Department of Education
US-Mexico Commission for Educational and Cultural Exchange
Summer 2000

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Preface

In the summer of 2000 I had the privilege to participate in the Fulbright-Hays Seminar Abroad Program in Mexico and Guatemala. Traveling to Latin America has always been a dream of mine and I have always been interested in indigenous cultures around the world, so when I learned about this particular Seminar topic, "Mesoamerican Indigenous Society at the Millenium: Historic and Contemporary Perspectives", I knew I had to go.

I could not have dreamed of a more perfect experience. It truly validated my role as an educator. I had the unique opportunity to visit two bilingual schools in indigenous communities, one in Chipaca, Guatemala and the other in Xaya in the state of Yucatan in Mexico. Both school communities welcomed us with warm receptions. The expression of gratitude for our visits and the opportunity it provided for exchange amongst teachers and students reaffirmed my commitment to global education and promoting "mutual understanding" between these countries and my own.

The impact of the cultural exchange inspired me to develop a curriculum project that focuses on the contributions of the ancient Mayan people and how these contributions have been interwoven into contemporary society. This project is a tribute to the Mayan people of Mexico and Guatemala who continue to carry on the traditions, languages, and lifestyles of their ancestors. These ways are not much different from the way they lived thousands of years ago. Even after a 36-year civil war that took thousands of Mayan people's lives, the Mayan people make up about 50% of the population in Guatemala today. Within that group there is tremendous linguistic diversity with at least 20 different Mayan languages still spoken today (Richards, 1997). This is a testament to the resilience and tremendous strength of the Mayan people. Finally, this curriculum project was done in a spirit of collaboration with my Seminar colleagues as well as with my students and colleagues at Marie H. Reed School in Washington, DC and I thank them for their support.

Name_____

Date_____

Maya Civilization

Geography Standard # 1 Students will understand and analyze the relationship between people, places, and the environment.

Essential Skills:
-Students will distinguish between land and water symbols on a globe and maps.
-Students will locate cities, states, nations, continents, oceans and seas using world maps and globes.

Historical Background:

One group of **Native American** people who were present in Mexico and Central America before the Spanish arrived in 1521 was the **Maya.** Explorers and scientists have found the remains of Mayan cities that are today the countries of **Mexico, El Salvador, Honduras, Guatemala, and Belize.** Some cities were located along the **seacoasts**, others in **rainforests**, and others along the highlands where there were many **mountains** and **volcanoes.** The **Maya** continue to live today. There are at least 4 million **descendents** who continue to speak the Mayan language and practice Mayan traditions of their **ancestors** like weaving, jewelry making, pottery making, milpa farming, and tortilla making.

Vocabulary: seacoast, forest, rainforest, mountain, volcano, descendent, and ancestor.

Procedures: Teacher will introduce the study of the Maya by introducing a timeline of their history breaking it down into the preclassic, classic, and postclassic periods. Students will work in small groups to complete their map work. They will use individual textbook maps, as well as Rand McNally landform write-on maps to locate the various geographical terms. A big National Geographic Map will be displayed at the front of the classroom as an additional resource for students to use. Teachers will monitor students' work by visiting each group periodically and addressing any concerns students may have.

Materials: Primary Sources: Pictures and postcards from Seminar trip of great Mayan cities: Tikal, Tulum, Chichen Itza, Uxmal, and Iximche. Slides from Tikal and notes from Seminar presenters. National Geographic Video: *Lost Kingdoms of the Maya: Unlock the Secrets of an Ancient Civilization.* **Secondary Sources:** Land of the Maya. "A Traveler's Map"(National Geographic-supplement to Oct. '89, pg.424A vol.176, no.4), "The Mesoamericans Map" (National Geographic-supplement to Dec. 1997 issue), Rand-McNally write-on Geographical terms maps, globes.

Questions/Queries: How were the different groups of Mayan people affected by their environment? For example how might have life differed for the Mayans living in the highlands versus the Mayans living on the coast?

Background Notes: I began this unit by showing parts of the National Geographic Video on the Mayans. This gave them an important visual of how life in 1000 BC might have looked like. Also depending on the grade level you teach and the class's experience with a timeline, you might want to spend an entire lesson on chronology and have them make a timeline of their lives to illustrate this concept. Finally, as part of this unit I had plenty of books about the Mayans displayed and available for them to read during their independent reading time. I also had a project display board of the Mayans set up in the classroom that had the National Geographic map, a timeline, and pictures and postcards from my trip displayed on it.

Map Work

Directions:

1. Locate the countries where there were once great Mayan cities on the map of Mexico and Central America.

2. Shade each country a different color.

3. Use the map, *The Land of the Maya*, to help you locate the exact area of each country where the Mayan cities were located.

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4. **Locate and circle *forest, coast, mountains,* and *volcano* on your *landform* maps. Then use the glossary on the back to write a definition for each landform term.**

5. **In your group try to complete the blank side of the map of Mexico and Central America without looking on the other side. Remember to study it first before turning it over!**

Evaluation: Students will be assessed on this lesson both informally and formally. Informally, the teachers will check their landform maps to see that they have correctly located each landform term and their Mayan maps to see that they have correctly identified each country where the Mayans lived. Formally, they will receive a vocabulary quiz to assess their knowledge of the meanings of specific vocabulary words.

Name_____

Date_____

Social Studies Quiz #1

Landforms

Directions: Complete each statement with the correct response and then circle the letter of the correct response.

Example: The largest body of water is called _____.
a) an ocean b) a river c) a lake

1. A _____ is a rise or elevation in the earth.
a) volcano b) mountain c) earthquake

2. A _____ is a place where there are many trees.
a) continent b) volcano c) forest

3. A _____ is the exact point where the water meets the land.
a) mountain b) shoreline c) volcano

4. A _____ is a hill or mountain that ejects lava and steam when it erupts.
a) forest b) mountain c) volcano

Name_____

Date_____

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2. Shade each country a different color.

3. Use the map, *The Land of the Maya*, to help you locate the exact area of each country where the Mayan cities were located.

4. Locate and circle *forest, coast, mountains,* and *volcano* on your *landform* maps. **Then use the glossary on the back to write a definition for each landform term.**

5. **In your group try to complete the blank side of the map of Mexico and Central America without looking on the other side. Remember to study it first before turning it over!**

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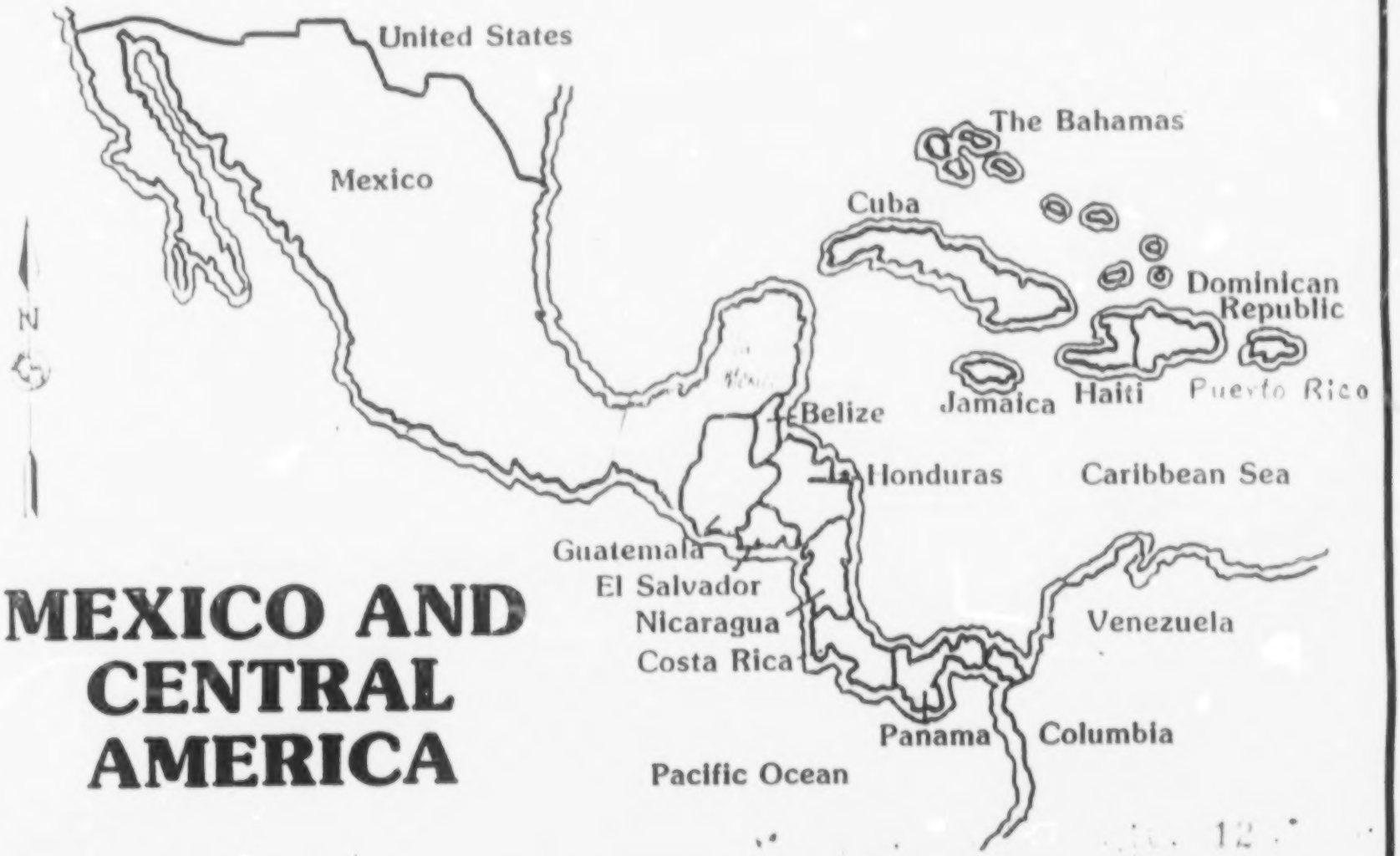
Directions: Shade in the countries where the Mayan cities were located

NAME: _____

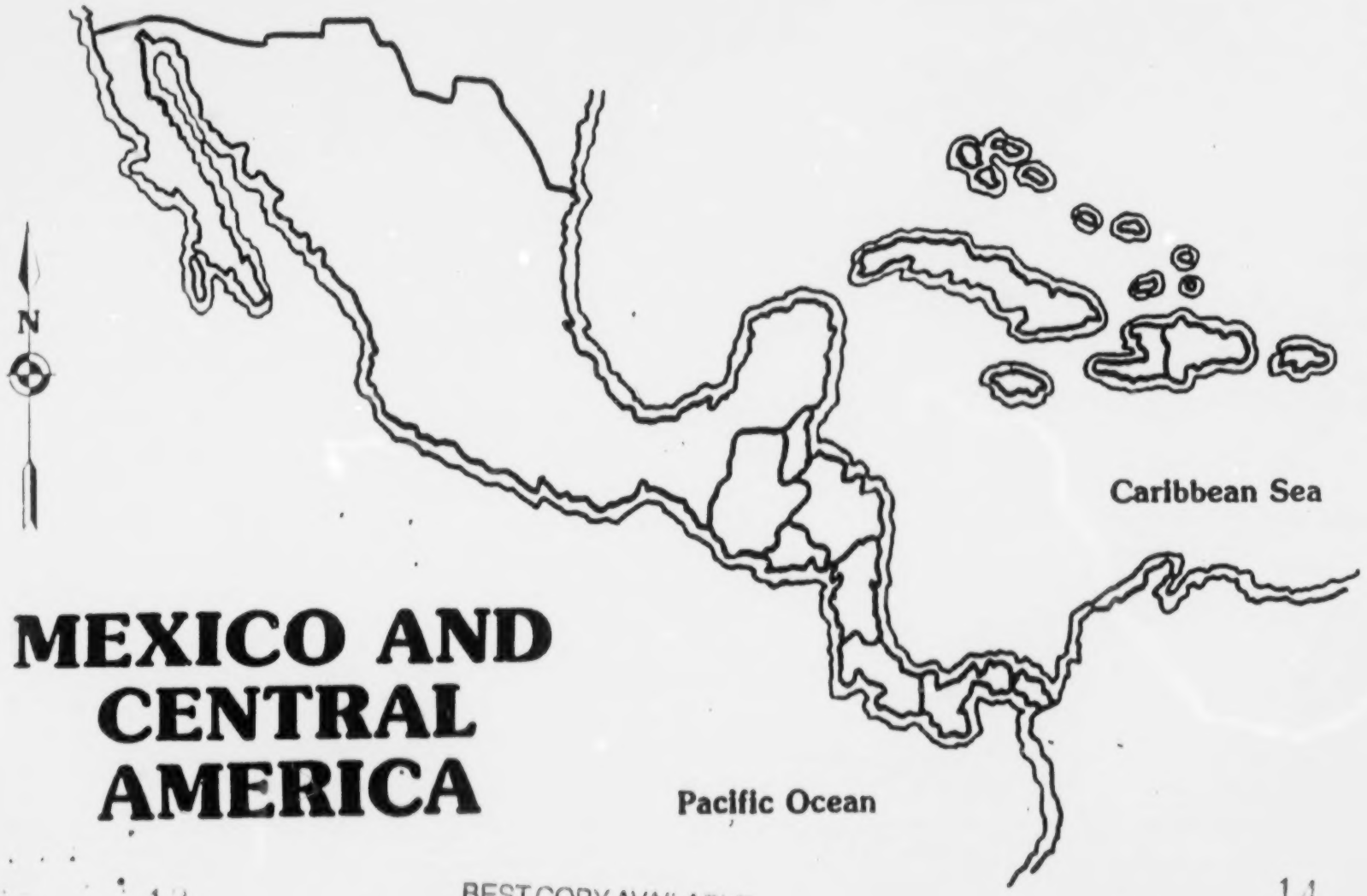
DATE: _____



MEXICO AND CENTRAL AMERICA

Duet Cantaré

Directions: Study the map on the other side. See how many countries you and your group can fill in without looking.



MEXICO AND CENTRAL AMERICA

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Duet Cartune "MAPS"

Name_____
Date_____

Mayan Contributions

Written Language

Reading/Language arts Content Standard 2: Students will comprehend and compose a wide range of written, oral, and visual texts.

Essential Skills:
-The student uses syntax, phonics, and context clues to determine pronunciation and meanings of vocabulary words.

Vocabulary: glyphs, stelae, codice, archaeologist, and artifacts.

Background: Scientists think that the Maya had one of the most advanced writing systems in the Americas. Mayan writing is called ***glyphs***, picture symbols, which they carved on stones in pyramids and other buildings. These symbols represent important ideas, sounds, or individual words and they tell about important events in Mayan history. Glyphs were also collected into written books formed from folded tree bark, called ***codices***. Unfortunately, only three codices have survived because the Spanish priests burned most of the books.

The Maya recorded history on huge slabs of stone called ***stelae*** and they recorded special dates and events on them. ***Archaeologists*** study glyphs and ***artifacts***, things left behind by ancient people, to better understand how they lived.

Procedures:

1) Build background with students by asking them what kinds of things they think archaeologists do and what kinds of tools they might use?

2) Share slides taken from Tikal which show examples of glyphs, stelae, and various artifacts from the ancient Mayan people.

3) Read aloud with students about the written language of the Maya and then share with them the handout of the glyph glossary to show them examples of important glyphs for the Maya.

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4) **Guided Practice**: Introduce the reading strategy of using *context clues* to aid in the meaning of unfamiliar words. Model an example for them using related material.

5) **Independent Practice:** Have students read the paragraph to themselves again and then ask them to write a definition of each vocabulary word by using context clues in the passage to infer meaning.

6) **Evaluation:** Students will take a vocabulary multiple choice quiz to assess mastery of vocabulary and students' definitions using context clues will be corrected in small groups and then collected by the teacher. (See attached student handout on context clues).

7) **Materials:**

Primary: Smithsonian Institution: Discovery Theatre Production: *The Jaguar, The Rabbit, and The Drum*, lecture notes from Arthur Demarest, Ph.D., and my slides of Tikal, an ancient Mayan city (July 2000).

Secondary: National Geographic Video: *Lost Kingdoms of the Maya* (See bibliography), Mayan related web sites (see appendix for more information), and non-fiction books about the Maya (see bibliography for more details) and glyph glossary.

Questions/Queries: How do archaeologists contribute to our understanding of history? What are some of their challenges?

Background Notes:

- It is helpful to be able to show them pictures of excavations and to discuss the different kinds of tools archaeologists use to study people. A possible extension of this lesson might be a unit on archeology and you could invite an archaeologist from a university to come in and talk to the students about possible careers in archaeology.
- Second Language learners may want to draw pictures to go with their definitions, or in lieu of their definitions depending on their language level of proficiency.

Extension: Have students make a "glyph poster" that represents themselves. They should think about qualities that they possess and then illustrate them making up their own glyphs. They may also choose an animal glyph to represent themselves, just like the Mayans believed that each person possessed some type of animal spirit. They should write about how they think that animal and themselves are alike. For example, "I chose a monkey because I am playful and curious like a monkey".

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GLYPH GLOSSARY

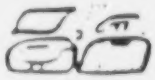
GLYPH	MEANING	GLYPH	MEANING
	ah men [craftsman; title of several deities]		*ahau* [lord]
	akbal [night]		beating or striking something
	caban [force; earth]		*canaal* [the sky; on high]
	cauac [storm; *tun*]		*chac* [red]
	chuen [monkey]		*cim* [death]
	cuch ca kal [carried on back]		*ek* [black]
	ik [air; life]		*imix* [water]
	Itzamna		*Ix* [tiger; magician]

Ixchel [lady; woman]

ixim [maize growing from seed]

kakche [ebony; fire tree]

kan [yellow; corn]



kanimix [abundance of maize]

katun [twenty]

kin [sun; day]

kintun-yaabil [drought; year of excessive sun]

kuche [divine tree]

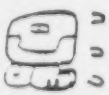
manik [grasp; deer]

men [bird; eagle; wise one]

milpa [a type of farm]

muluc [rain]

new green maize



new maize

red maize

sac or *zac* [white; terror]

ti likin [in the east; at sun rise]

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tun

tunil yax nal [a year of green maize]

Name_____ student handout
Date_____

Mayan Contributions

Written Language

Reading/Language arts Content Standard 2: Students will comprehend and compose a wide range of written, oral, and visual texts.

Essential Skills:
-The student uses syntax, phonics, and context clues to determine pronunciation and meanings of vocabulary words.

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The Maya recorded history on huge slabs of stone called ***stelae*** and they recorded special dates and events on them. ***Archaeologists*** study glyphs and ***artifacts***, things left behind by ancient people, to better understand how they lived.

Directions: Write the definitions for the five vocabulary words above using context clues in the paragraph to help you.

1. **Glyphs** are _____ and the context clues that helped me to know this are _____.

2. **Stelae** are _____ and I know this because _____.

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3. **Codices** are _____ and the context clues that helped me to know this are _____.

4. **An archaeologist** is _____ and the context clues that helped me to know this were _____.

5. **Artifacts** are _____ and I know this because _____.

Name _____
Date _____

Mayan Contributions

Textiles

Patterns:
Math Content Standard 2: Students will generalize patterns and functional relationships and solve real-life and career-related problems.

Essential Skills: The student creates, extends, and analyzes geometric and number patterns and states the rule.

Background: The Mayan people who live in Southern Mexico and Guatemala today continue to use a simple technique of weaving on a backstrap loom that they developed in ancient times. The design and symbols of their huipils identify the town or village to which the woman belongs.

Vocabulary: Refer to glossary for definitions of underlined words: **backstrap loom, design, symbol, and huipil.**

Materials: Primary Sources: Traditional huipil from Guatemala, pictures of huipils in the market place of Chichicastenango, Guatemala, pictures of women weaving on a backstrap loom, project display board of Guatemala with pictures, maps, and brochures from my trip.
Secondary Sources, huipil patterns, glossary of definitions related to textiles, design glossary, design definitions, excerpt about the ancient Mayan clothing, paper, pencils, and markers. Non-fiction books : Guatemala Rainbow, The Ancient Maya (See bibliography for more details).

1. Review common patterns in our everyday lives with numbers, ceiling designs, musical selections, etc.

2. Share with students the project display board with pictures of women weaving on a backstrap loom, pictures of various huipiles from the Guatemala Rainbow book, and an authentic huipil from Guatemala. See if children can use their glossary of designs to identify any patterns on the huipil or from the pictures of the textiles.

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3. **Guided Practice:** Pass out the design glossary and read aloud with the students about the significance of these symbols to the Mayan people.

4. **Independent Practice:** Pass out huipil patterns and have students use their glossary of designs or geometric patterns to create huipiles that represent their identity. **Note: Students should be reminded that the Maya used symbols that represented what were important to them and their identity and so should they.** They should repeat patterns horizontally or vertically and choose at least 2 different patterns in their huipiles.

5. **Evaluation:** Students should be able to create, analyze and state the rule for the different patterns they use by applying a letter to each pattern design and students will be evaluated according to a rubric which specifies this criteria.

6. **Extension: Students will be given a pattern assessment of geometric shapes to see if they can apply essential skills to different tasks.**

Related Literature Selections: Angela Weaves a Dream and Abuela's Weave (See bibliography for more details).

Background Notes: I read Angela Weaves a Dream by Michele Sola to my students before we began this lesson. This book gives an excellent description of what contemporary Mayan life is like for a Yucatec Mayan girl. It also gives excellent descriptions about the history of the weaving tradition that includes weaving specific sacred designs into their clothing as a way of passing down the Maya's people history from generation to generation.

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Glossary

Abuelita grandma (from the Spanish word *abuela*, meaning "grandmother")

Abuelito grandpa (from the Spanish word *abuelo*, meaning "grandfather")

Backstrap Loom Specific type of loom used by Maya weavers. A strap stretches behind the wearer's back and holds one end of the loom. The other end is attached to a pole, a tree, or a hook at some distance from the weaver.

Brocade A type of weaving where designs are made by inserting the threads as the cloth is being woven, rather than being added to finished cloth.

Carding A means of cleaning wool by pulling the fibers between two flat combs or brushes with metal bristles to release bits of dirt and straw.

Design A particular combination and organization of colored threads.

Dyeing The method of changing or intensifying colors of fibers, such as wool.

Huipil Traditional blouse or tunic worn by Maya women. It is woven in two rectangular pieces that are stitched together. The designs around the neck and along the sleeve edge identify the town of the woman wearing it and the weaver who produced it.

Master Weaver Women who have devoted themselves to studying traditional designs and weaving techniques on the layers of huipils decorating the saints of the church or who have learned the craft by apprenticing themselves to older master weavers. They are expected to pass their knowledge on to young weavers and are often the center around which weavers' cooperatives are organized.

Maya Contemporary indigenous people living in the southern Mexican state of Chiapas as well as the countries of Honduras, Belize, El Salvador, and Guatemala. They speak more than forty languages and are united by ties to the ancient Maya, who flourished from A.D. 100 to A.D. 900. In Chiapas, the Tzotzil Maya live in the western highlands and are a conservative group of villages who maintain the traditions of weaving despite the pressures for change from the modern world.

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Metate A thick smooth stone with a depression in the center. Dried corn kernels are ground in preparation for making tortillas by rolling a second round stone in the depression.

Milpa cornfield

Sampler Rectangular piece of cloth woven by Maya girls to practice the designs and to show that they are preparing to become weavers in the village tradition. Women also weave them as demonstrations of their skill or as evidence that they have studied ancient designs on huipils decorating the saints of Maya churches.

Skein A standard length of yarn measured by winding it around and around outstretched hands.

Spindle Maya women use a drop spindle made of a pointed wooden dowel pushed through a flat wooden or clay cylinder. They come in two sizes, a small one for spinning single strands of yarn and a larger one for spinning several strands together.

Spinning The process of twisting wool fibers into yarn. Spinning is done by stretching a thick strand of wool fibers between a spindle in one hand and a clump of wool fibers in the other. Then the spindle is rotated on the ground, in a ceramic dish or half a dried gourd, which twists the fibers into yarn. The yarn is then wound into a ball at the base of the spindle.

Symbol A widely recognized representation of a figure.

Bibliography

Morris, Walter F., Jr., and Jeffrey J. Foxx. *Living Maya*. New York: Harry N. Abrams, Inc., 1987.

Tedlock, Dennis, translator. *Popol Vuh*. New York: Touchstone, 1985.

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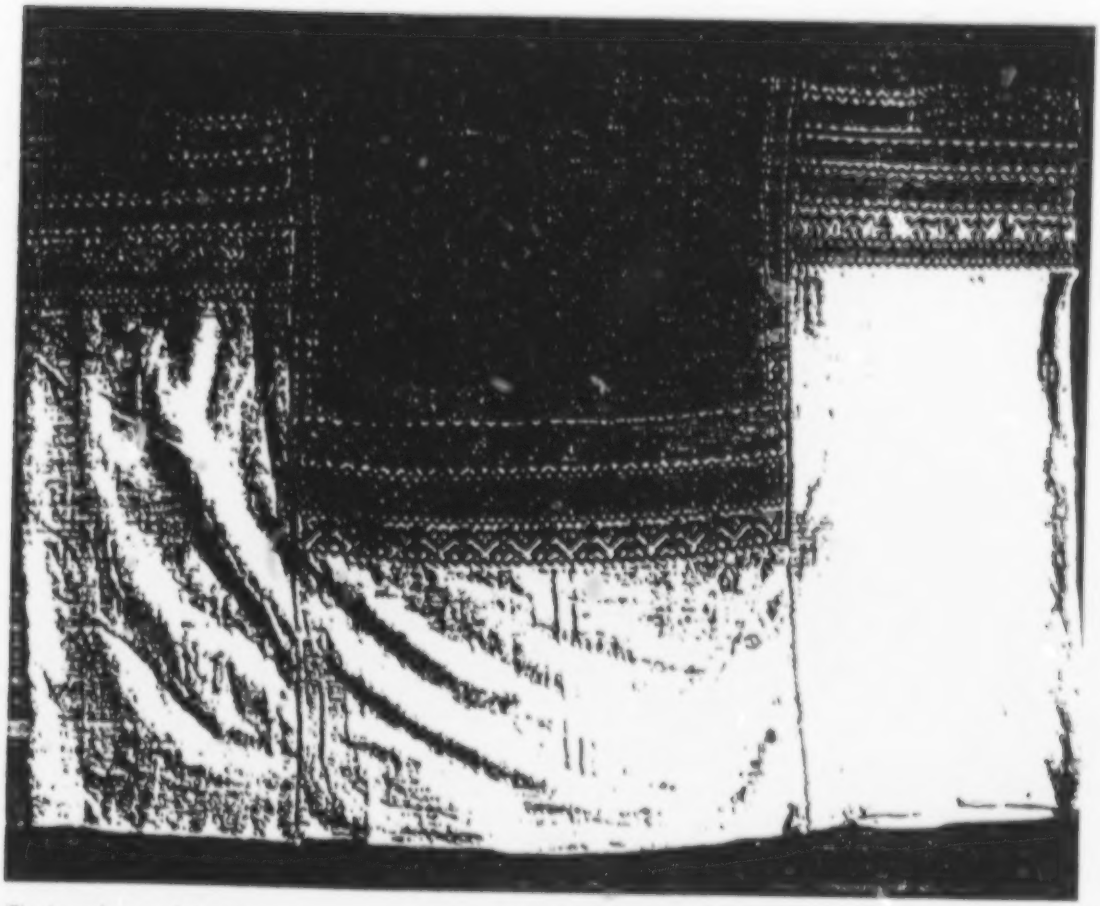
The designs, drawn from ancient beliefs, show the connection with old times. Diamond designs refer to the earth and sky. Wavy designs, called snakes or flowers, symbolize the fertile earth with its wealth of plants and animals. Three vertical lines stand for the ancestors or for monkeys. Figures such as toads and saints represent the rain god and the Catholic saints who watch over the world.



The huipil, *a traditional Maya blouse. People can tell where someone comes from by the design on the person's* huipil, *since each community weaves unique designs.*

When a modern Maya woman wears a traditional blouse, or *huipil* (wee-PEEL), that she has woven, she is in the center of a universe that shows her family history, where she lives, the saints that are important to her, and symbols of rain and fertility. Weaving the *huipil* is an art, and it is also a sacred duty ordered by the gods and ancestors. For centuries women have woven gowns for the images of their gods. These gods are today identified with the Virgin and Catholic saints.

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From The Ancient Maya
Galvan, Irene, 1997

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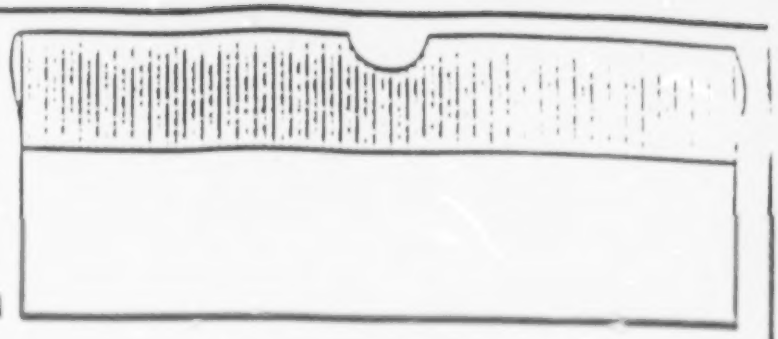

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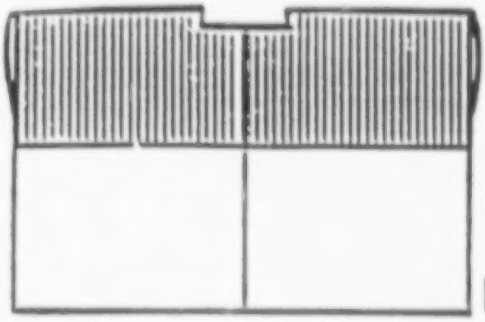

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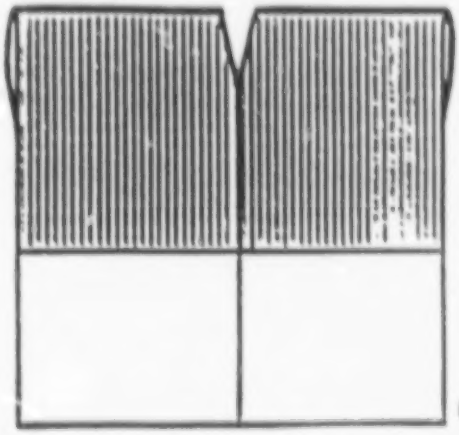

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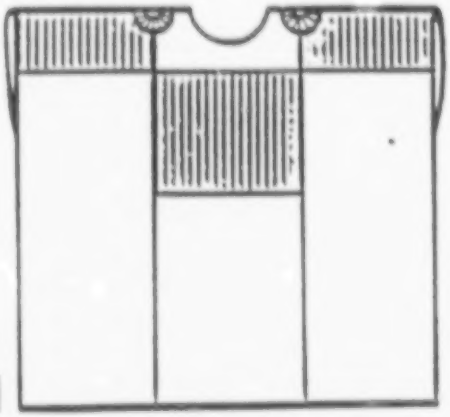

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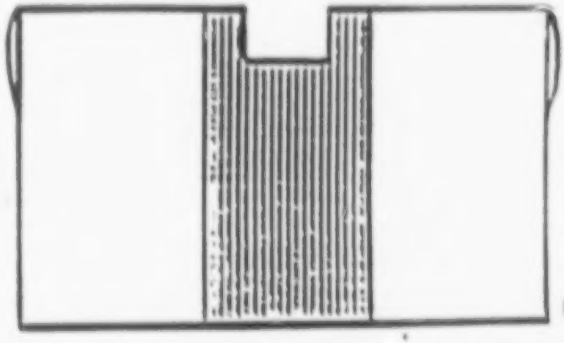

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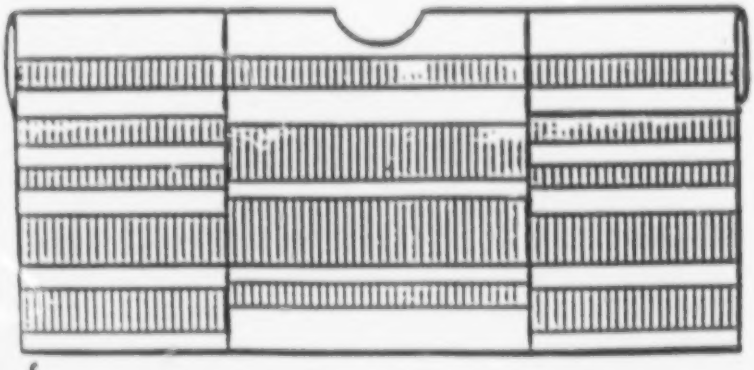

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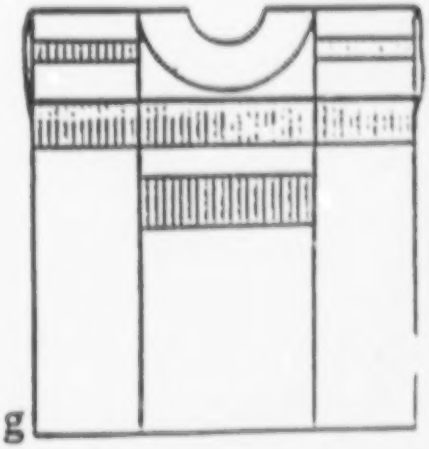

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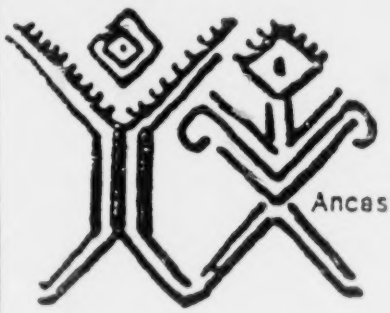
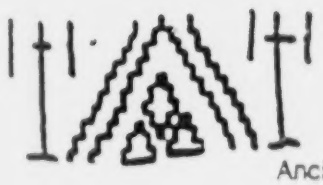
DESIGN GLOSSARY



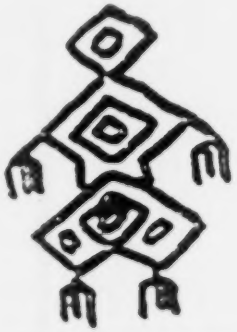
Ancestors



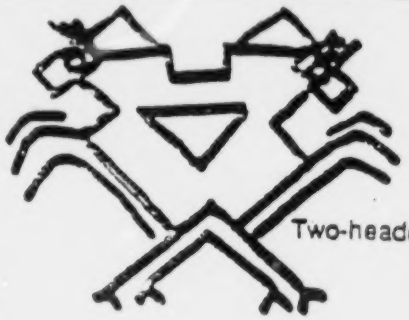
Ancient House

Bird

Butterfly



Clown



Two-headed Eagle

Earthlord

Flowering Plants

Forest

Heart of Heaven

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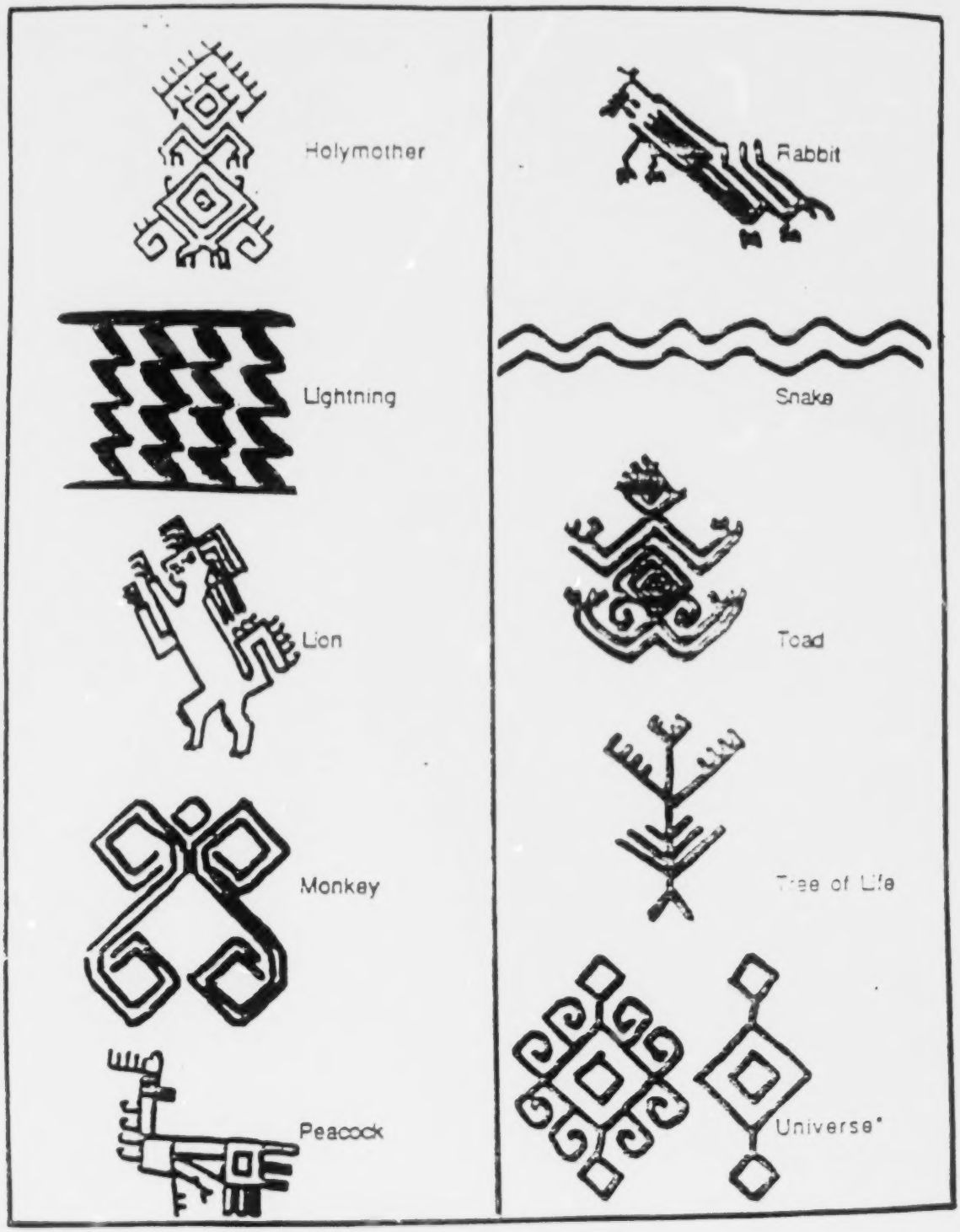

*the diamonds indicate cardinal directions; a line connects east at the top and west at the bottom to show the paths of the sun.

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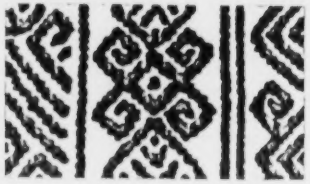
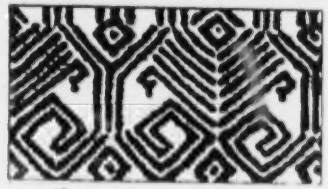


Butterfly

A symbol of the sun, which is the center of the Maya universe, this diamond shaped design has two curls on each side, representing the wings of a butterfly. Just like the sun, which rises in the morning and sets at night, butterflies are active only during daylight hours.

Snake

The snake is a messenger between the earth and the underworld and lives in the cave of the Ancestors. The Snake is found in many forms on Maya weavings—sometimes a simple steplike design, other times as part of the Flowering Corn design.



Ancestors

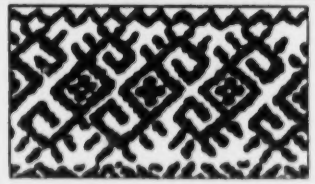
The Ancestors consist of a pair of figures, the Earth Mother and Earth Father. The Earth Father can be identified by the three thick vertical lines at its center. Although occasionally found alone, more often it appears alongside the Earth Mother, recognizable by its outstretched arms. The Maya believe that the Ancestors live in a cave located in each village's sacred mountain.

Toad

The toad stands guard at the mouth of the Ancestors' cave and watches for signs of approaching rain. When the sky darkens the toad sings, alerting nearby Maya villages that the rain is coming and soon the corn will flower.

Flowering Corn

A symbol of the universe in harmony, this design is sometimes a variation of the Snake design, extending the zigzags into what look like flowers. Or it looks similar to the Earth Mother design, with multiple arms. The Maya believe that just as a corn plant has many branches, the Earth Mother has many arms with which to embrace her children.



Scorpion

The scorpion is easily recognized by its long, curling tail. An ancient legend tells that Anhel, the lightning god, was once bitten by the scorpion. As punishment, the scorpion is forever condemned to live under a rock. Every time the scorpion ventures out into an open space, Anhel hurls bolts of lightning at it and produces rain.

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Rubric for Huipil Designs

4 Advanced
Student has created and copied the huipil design neatly and accurately. Student has chosen 3 or more different designs from the Mayan glossary of designs. Student may have created multiple patterns on his or her huipil and has stated the rule for his or her pattern(s) using a key.

3 Proficient
Student has created and copied the huipil design accurately. Student has chosen at least 2 different designs from the Mayan design glossary. Student has created a pattern with these designs and has stated the rule for his or her pattern with a key to explain the pattern.

2 Basic
Student has created a huipil design somewhat accurately. Student may have chosen two designs, but has not created a pattern with these designs. Student may have stated the rule for his or her pattern, but the student may have forgotten to include a key.

1 Below Basic
Student has not completed the assignment in the alloted time. The design is incomplete and therefore this assignment cannot be assessed accurately.

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Mayan Textiles

Literature Selection: **Abeuela's Weave** by Omar S. Castaneda

Reading/Language Arts Content Standard #2 Students respond in many ways to a rich variety of culturally diverse literary texts.

Essential Skills:

-The student infers main ideas, lessons or morals learned in the literature.

-The student identifies ways different cultures preserve their oral and written history.

-The student organizes and synthesizes information using a graphic organizer, a Venn Diagram.

Strategies:

1) **Pre-Reading** Complete map work on Guatemala or create a Guatemalan art display with your class using postcards, pictures from magazines and important symbols like the quetzal, the flag, Mayan ruins, etc. Share pictures of women weaving on a backstrap loom and pictures of a Mayan market place with textiles for sale.

Journal Work:

1. **Do you know someone who has a physical disability? Write about how they cope with their problems.**
2. **What is meant by the phrases, "Beauty is only skin deep" or "Don't judge a book by its cover"?**
3. **Write and draw about any customs or traditions that you learned from your *ancestors.***

Reader Response Suggestions:

1. Use a Venn Diagram to illustrate how a village and a city differ and how they are the same. Have students put the following phrases where they belong in the Diagram: **black fumes, shouting policemen, chickens and pigs, fields of corn, market place, thatched huts, screeching bikes, people, and bus.**

2. **Cardboard Loom Weaving:** Follow the directions to create a weaving.
   1) **Cut ½ inch slits at top and bottom of cardboard.**
   2) **Weave long lengths of yarn over and under, under and over.**
   3) **Push each row close to the one before it as you weave.**
   4) **Cut strands in back to make fringe.**

   Materials: cardboard, yarn, and scissors.

Materials:

Primary: Huipil from Guatemala, pictures of market place from Chichicastenango, Guatemala, pictures of women weaving on a backstrap loom, Guatemalan art display board, Guatemalan stamps, Guatemalan money. Secondary: **Guatemala Rainbow,** and a book about the quetzal, **Quetzal Sacred Bird of the Cloud Forest** and literature selection, **Abuela's Weave.**

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Questions/Queries: How did the Mayans pass down their culture and how do they continue to preserve their culture today? How do we pass down our culture and family traditions from one generation to the next?

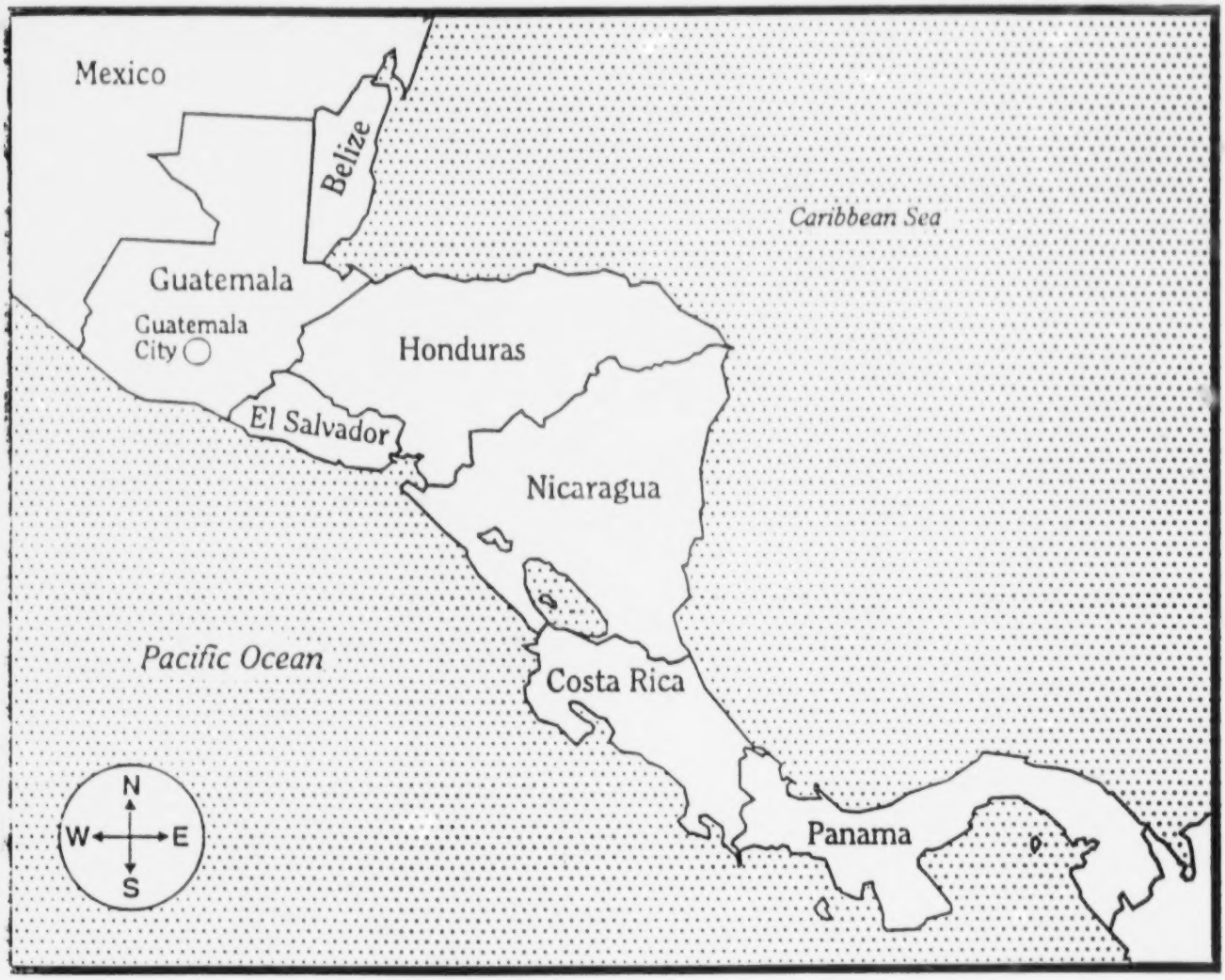
Background Notes: Help students to make a connection to other cultures that have a strong oral tradition and help them to think of certain songs, folktales that help them to preserve these traditions, i.e. the Anansi stories of Africa. Also help them to think about traditions they might continue in their own families like cooking, sewing, woodcarving, dancing etc. Finally discuss symbolism as it relates to this story and how certain symbols like the quetzal hold a sacred meaning for the Maya people.

Evaluation: Teacher will assess journal responses individually with dialogue responses to their responses modeling correct spelling and grammar. Accuracy of Venn Diagrams will be assessed in small groups and the ESL teacher and regular classroom teacher will monitor the process of the cardboard loom weaving projects.

Name

Abuela's Weave

MAP B



1. Find Guatemala. Color it green.
2. Find Guatemala City. Draw a star to show it is the capital.
3. Name the country that borders Guatemala to the north and west.

4. Name three other countries that border Guatemala.

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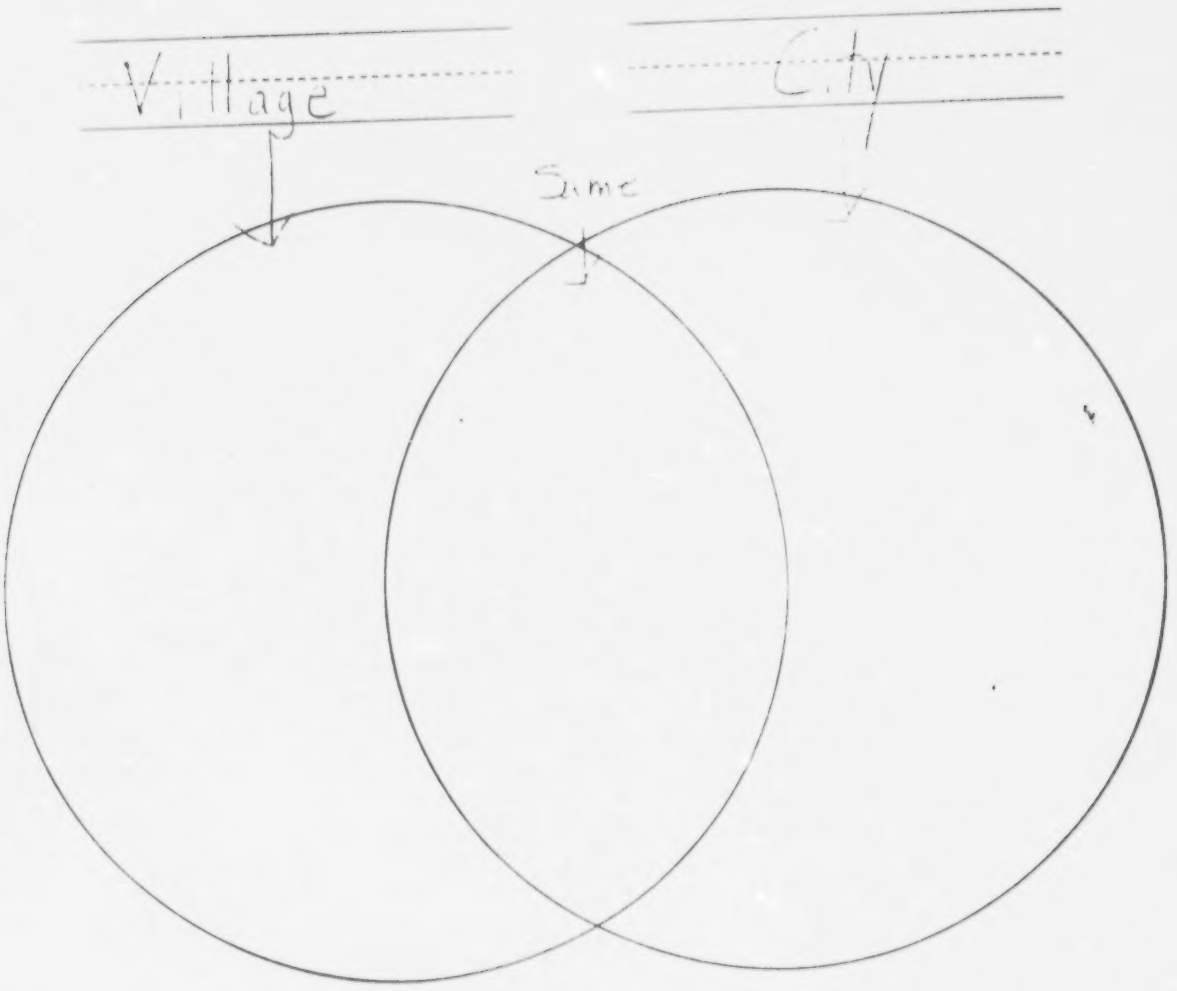
Venn Diagram



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Mayan Influence in Guatemala and Mexico

History Content Standard #2 Students use varied methods and sources in research and writing.

Reading/Language Arts Content Standard#3 Students use language and symbols to define problems and organize information.

Essential Skills:
-Student interprets and uses primary and secondary sources.
-Student organizes and synthesizes information using a graphic organizer.
-Student produces a report that:
    -Includes appropriate facts and details.
    -Uses appropriate strategies, such as providing facts and details, describing or analyzing the subject, and a relevant anecdote.

Strategies:

1) Teacher will introduce the lesson by brainstorming with children about what they already know about Guatemala and Mexico and then she will share authentic items from those countries: *clothing, musical instruments, stamps, money, and school books published in the various languages spoken in those countries. The teacher will stress that these are authentic items, also known as primary sources of information.* When sharing these items the teacher will point out the Mayan influences on mainstream society, like important Mayan symbols printed on the money and stamps and the different Mayan languages still taught to indigenous students today.

2) Students will complete the research on their countries using *the cooperative jigsaw structure.* Students will be broken up into small home groups of 3 or 4 to complete the research chart as a group. Each group member will then be assigned 3 or 4 categories to research with students from other groups who have similar categories and he or she will become an expert on those areas. After completing their research, they will then return to their home group to share their information with the rest of the group.

Guided Practice:
3) Students will use both primary and secondary sources of information when conducting their research. The teacher will model in small groups how to use the table of contents and the glossary to look up specific facts in non-fiction books.

Independent Practice:
4) The students will then use research facts from their completed charts to write postcards to their classmates or teachers from either country. Each student will write his or her own postcard with a picture on the front that illustrates

something important from that country. The student must include 4-5 facts from the chart in their "report" postcards.

Feedback:

5) The teacher will guide students through *the writing process* during the entirety of the lesson and individual conferences with students will be conducted before the student's final draft. Each student will use the writing process checklist to help him or her get to the publishing stage of their postcards.

Materials:

Primary: Items of clothing, musical instruments and selections, pictures of homes and schools, samples of school books published into various indigenous languages and pictures and slides from Mexico and Guatemala.

Secondary: Non-fiction books about Mexico and Guatemala (See bibliography for more details), Simon and Schuster New Millenium Children's Encyclopedia, 1999(CD-ROM).

Questions/Queries

How can we distinguish between primary and secondary sources of information when conducting research and how do we recognize bias in secondary sources of information?

Background Notes:

For this lesson you might want students to access information using the Internet as a resource as well. I think it is very important that students learn to examine conflicting sources of information critically and we, as educators, need to point out biases that are reflected in our current curriculum materials. For example, many sources of information neglect the linguistic diversity that exists in both of these countries by either failing to mention certain indigenous languages spoken there or by listing the languages as "Indian dialects" as was reported in the Simon and Schuster New Millennium Children's Encyclopedia, 1999. This bias only serves to further marginalize indigenous people, and the importance of using primary resources in research to refute myths, stereotypes, and untruths should be stressed to students using the example cited above or using your own materials.

Evaluation:

Students will be graded according to a rubric based on previously specified criteria for this assignment. See attached rubric.

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3.1 Information about My Country Name: _____

Name of Country _____

location _____ of the equator

borders: North _____ South _____

East _____ West _____

population: _____ % rural _____ % urban _____

area (sq. mi.) _____

capital _____

other major cities: _____

geography (mountains, lakes, etc.) _____

climate _____

currency (money): _____

independence day: _____

other holidays _____

religion _____

language: _____

literacy rate _____

check weather in daily paper, if applicable... flag:

emblem/national symbol:

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Name_____

Date_____

What Do You See on the Money from Central America?

-Money from different countries usually has pictures of important people and symbols on it.

Directions: Observe the different samples of money from different countries in Central America and complete the chart as you finish each sample.

Country	Words	Numbers	Person	Building	Other

United States	Guatemala
food	
music	
clothes	
homes	
jobs	
climate	
holidays	
sports	
schools	
language	
religion	

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United States	Mexico
food	
music	
clothes	
homes	
jobs	
climate	
holidays	
sports	
schools	
language	
religion	

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THINGS THAT HELP US AS WRITERS:

Notes attached to folders

(1) **Prewriting** (planning)

- drawing pictures
- looking at pictures
- talking about what I want to write
- brainstorming
- grouping or clustering words and ideas
- webbing or mapping

more ideas:

(2) **Drafting**: Writing Down My Ideas

- writing about the picture or my drawing
- using my own spelling
- putting my ideas into sentences
- writing what I'm thinking
- telling about the picture I drew

more ideas:

(3) **Revising:** Making My Writing Better

- asking others to read and tell me about my writing
- adding more information
- taking out things which do not belong
- putting sentences in order
- changing words or phrases

more ideas:

(4) Editing: Getting Ready To Share My Writing

- checking my spelling
- checking my capitals
- checking my periods
- checking my commas
- spacing between words
- using my best handwriting

more ideas:

(5) Publishing: Sharing My Writing

- reading my finished writing to others
- putting my writing into a class book
- adding pictures to my writing
- mailing the letter that I've written

more ideas:

Sincerely,

44

45

Mexico and Guatemala Postcard Activity
Scoring Rubric

4 Advanced
The postcard includes more than 4 researched facts that are presented in complete sentences. The country chosen is illustrated with a detailed picture on the front of the postcard. The postcard includes the complete address of the person to whom you are writing. Research organizer is complete, including sources of information used. Evidence of writing process is shown, including revision of writing with correct punctuation, capitalization, and spelling.

3 Proficient
The postcard has all required elements, but may be less organized and clear than a 4. Work presented at this grade is not as neat and the descriptions are not as detailed, as a grade of 4. To be a grade of 4, student needed to include better details, and more organized and neater work.

2 Basic
Reporting of facts in sentence form may lack a clear description of what was learned. Some of the information required may not be done, i.e. (incomplete address or not enough facts). Student may not have revised work. Student has the option of revising work for a new grade.

1 Below Basic
Work is incomplete. Assignment was misunderstood and directions were not followed. The report is so unclear and illegible and contains so little information that it cannot be evaluated. The student needs to have a conference with the teacher and caregiver before revision is possible.

Name _____

Date _____

Mayan Contributions: Math

Math Content Standard 1: The student interprets multiple uses and forms of numbers and how they relate to each other.

Essential Skills:

-The student will add and subtract whole numbers using the Mayan number system.

-The student will compare the base ten place value system with a base twenty place value system.

Strategies:

1) **The teacher will introduce the lesson by sharing pictures of Mayan observatories and the Mayan bilingual school in Guatemala and by sharing with them information from The Ancient Maya and The Maya about the mathematical contributions of the Mayans, specifically in astronomy and their development of the number zero.**

2) **The teacher will build upon prior knowledge of Egyptian Pyramids to share about construction, placement, and uses of Mayan pyramids.**

Guided Practice:

3) **Teacher will explain the Mayan number system and students will practice writing their ages, grade level, number of siblings etc. on the blackboard.**

Independent Practice:

4) **Students will complete the Mayan math packet and those that finish early can make up their own Mayan math problems and exchange them with a friend.**

Feedback

5) The teacher will monitor student work through the duration of this lesson and will meet with small groups of students when remediation is necessary.

Materials: *Primary*: Math worksheets from Mathematica Preprimeria Bilingue, pictures from bilingual school in Guatemala.
Secondary: Worksheets from DC Thematic Unit and National Geographic. (See bibliography for more information).

Questions/Queries:
Do people from around the world interpret time and numbers in the same way? For example does everyone use the same calendar and number system?

Background Notes: This is a wonderful lesson to introduce various calendars used around the world, especially the Aztec and Mayan calendars, as it pertains to this lesson. Also, depending upon the level of your students you can also do simple division and multiplication problems and introduce how to write numbers greater than 20 and investigate any other cultures that use a different number system.

Evaluation: Teacher will correct individual students' work and will give a quiz on related vocabulary (see Social Studies Quiz #2).

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Name _____

Date _____

Mayan Contributions: Math

Math Content Standard 1: The student interprets multiple uses and forms of numbers and how they relate to each other.

Essential Skills:
-The student will add and subtract whole numbers using the Mayan number system.
-The student will compare the base ten place value system with a base twenty place value system.

Background:

The Mayans were excellent **mathematicians** and **astronomers,** as well as **builders** and **artists**. They knew how to use zero in mathematics and they developed an accurate calendar with the 365 days in a year that we now use. They predicted the movements of the sun_____, the moon_____, and the planet Venus from the **observatories** that they built. They were able to predict **eclipses** and they built their pyramids like huge solar (sun) clocks that marked the change of seasons.

A. **Number System**

The Maya used a system of dots(.) and lines (____) to write numbers. Each dot (.) = 1 and a horizontal line (___) = 5. A number is read by adding the dots and lines together. The most important symbol the Maya used in their mathematics represented zero. Maya school children in Mexico and Guatemala continue to study this **ancient** number system today.

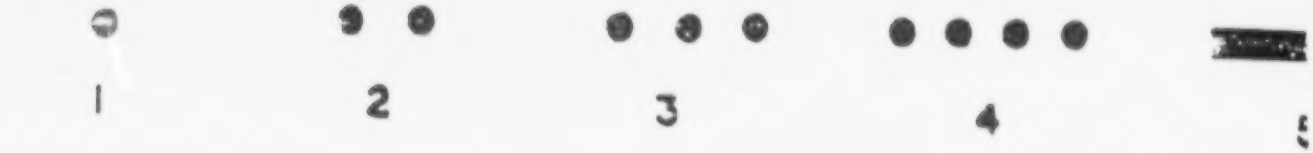
Directions:
Study the different Mayan number symbols for each regular number. Then complete the following Mayan math worksheets. Some of these worksheets are taken from a math book that Mayan school children use in their schools. Use the *Numeros Mayas* worksheet to help you complete this activity.

Name _____ Date: _____

Unit = Number Sense and Numeracy

4.1

CERO O COMPLETO



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40

NUMEROS MAYAS

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4.2

Name (nombre)

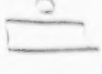
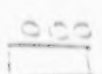
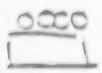
Addition with Mayan Numbers

Add (Suma):

1. + ● = _____
2. ●●● + ● = _____
3. ●● + ● = _____
4. + ● = _____
5. + ● = _____
6. + ●● = _____
7. + ●● = _____
8. + ●●● = _____
9. ● + ●●● = _____
10. ● + ●●● = _____

Subtraction with Mayan Numbers

Subtract (Resta):

1. ●●●● - ● = _____
2. ●●●●● - ●● = _____
3.  - ● = _____
4. - ●● = _____
5.  - ●● = _____
6. ●●●● - ●● = _____
7.  - ●● = _____
8. - ● = _____
9. - ●● = _____
10. - ●●● = _____

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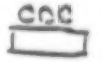
Name (nombre) _____ Date (fecha) _____

Addition with Mayan Numbers

1. ooo + oo = _____
2. o + oooo = _____
3. oooo + o = _____
4. ooo + ooo = _____
5. oo + oooo = _____
6. oooo + oo = _____
7. ooo + oooo = _____
8. ooo + ooo = _____
9. + oooo = _____
10. + ooo = _____
11. + oo = _____
12. + o = _____

Subtraction with Mayan Numbers

1. - o = _____
2. - oo = _____
3. - ooo = _____
4. - oooo = _____
5. - o = _____
6. - oo = _____
7. - ooo = _____
8. - oooo = _____
9. - = _____
10.  - = _____
11. - = _____
12. - = _____
13. - = _____
14. - o = _____

Challenge: Make up your own problems and see if a friend can solve them.

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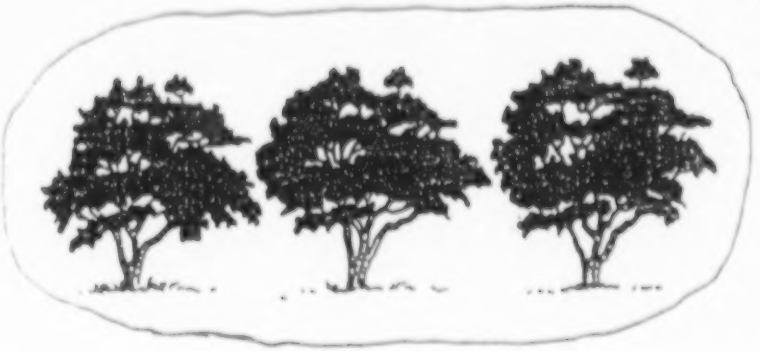
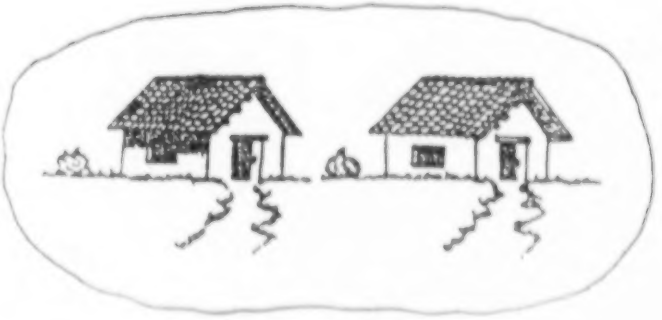
Directions. Match the picture with the correct Mayan number.

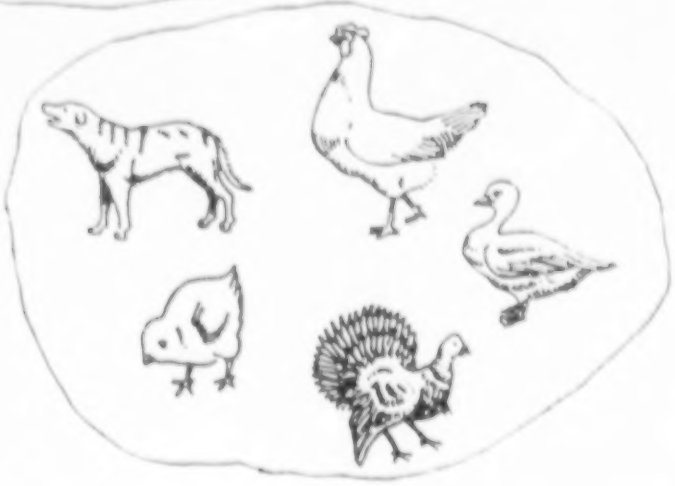


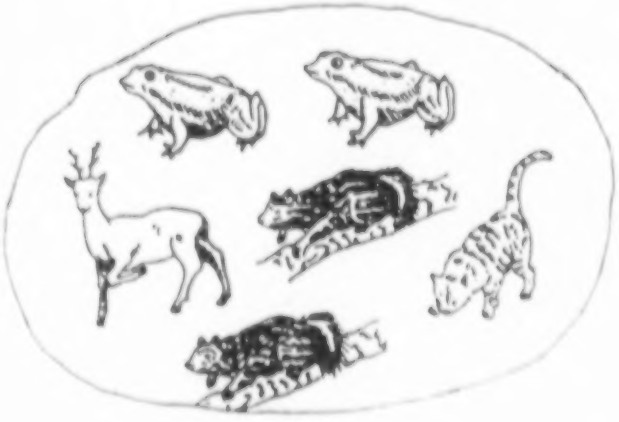


Name: _____

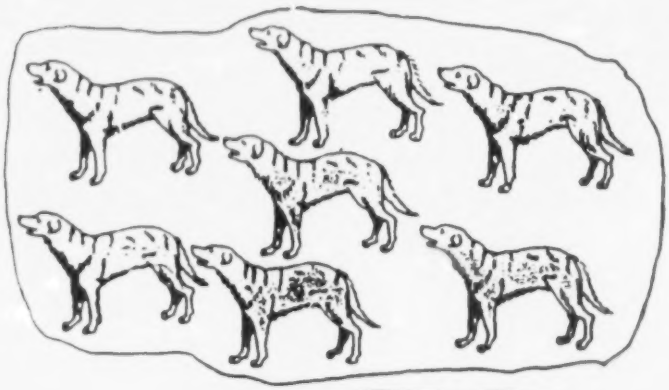
Date: _____

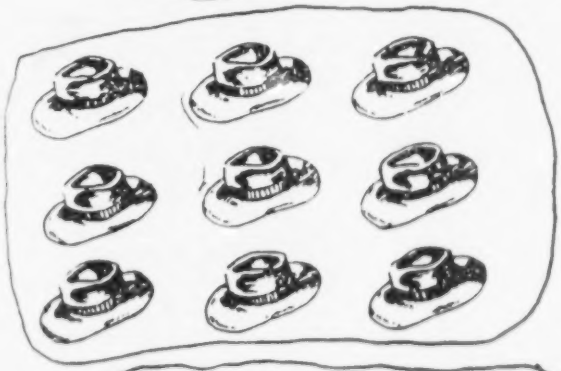
Directions: Match the picture with the correct Mayan number

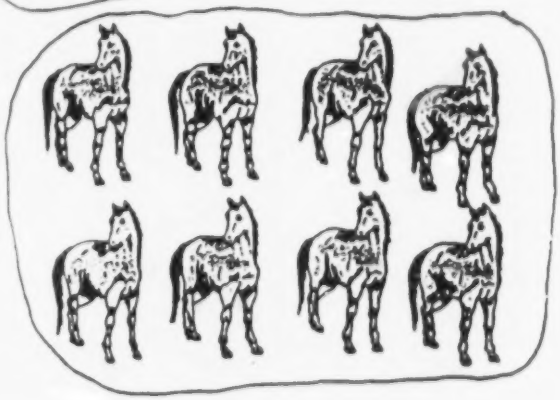


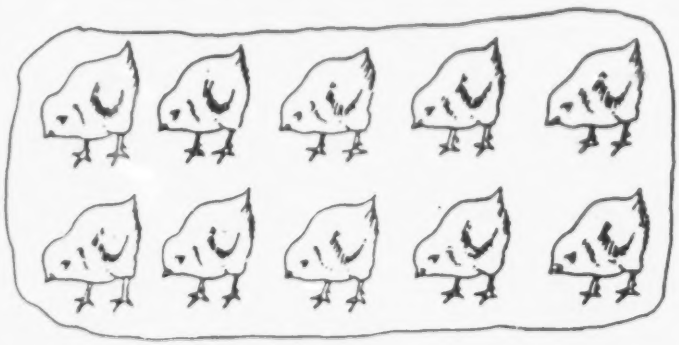


Directions: Match the picture with the correct Mayan number.

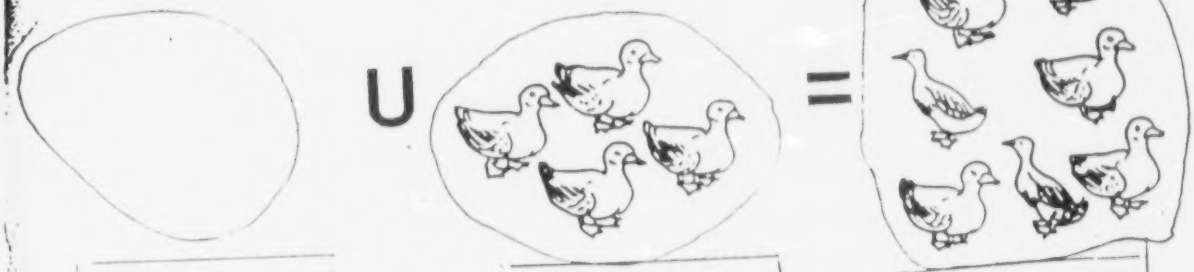








Directions: Fill in the missing picture and then complete the number sentences using Mayan numbers.



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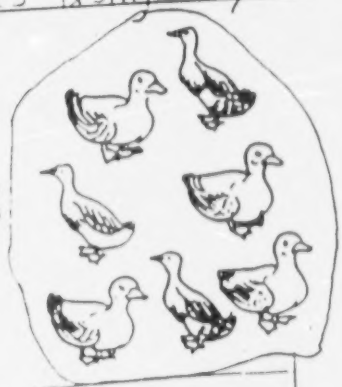

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Name

Date

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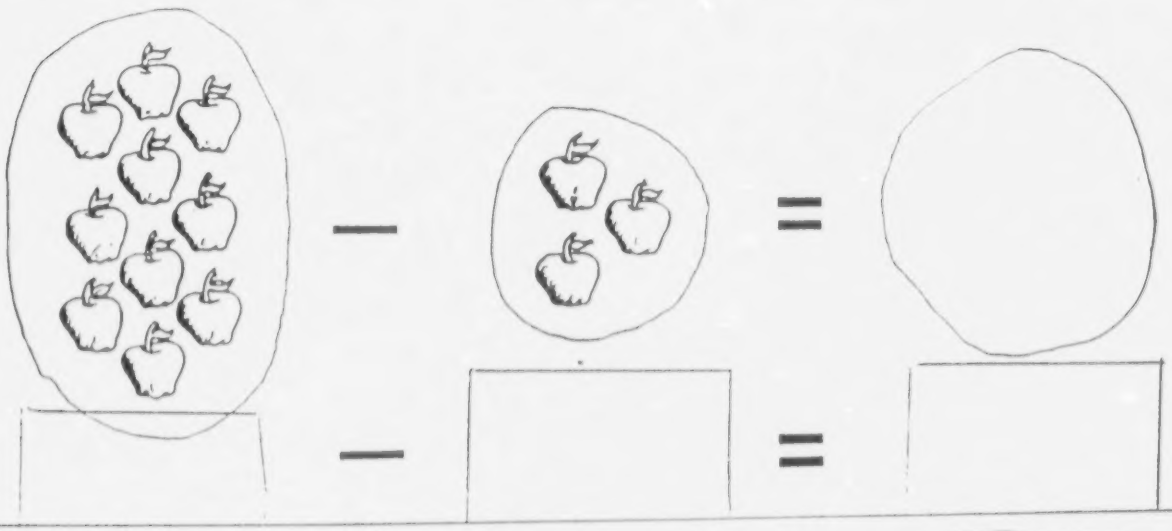
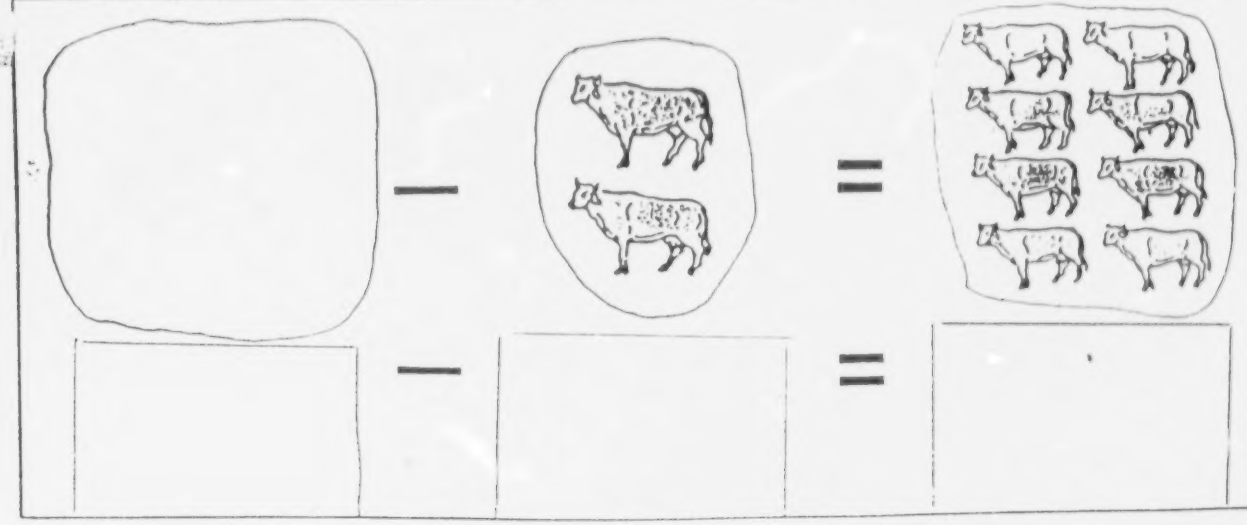
Directions: Fill in the missing picture and then use the Mayan number system to complete the number sentences.





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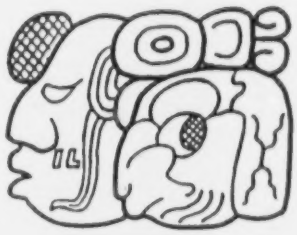
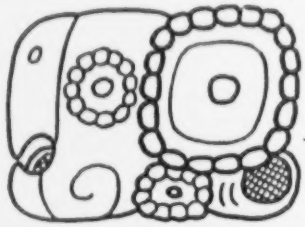
HOW OLD ARE MACAW AND WHITE RABBIT?

Long ago, the Maya Indians of what is now Mexico and Central America told stories with symbols called glyphs. The glyphs at the top of this page stand for the names of Macaw, a Maya boy, and his sister White Rabbit. Using Maya numbers, can you figure out how old these children are?

1	•
2	• •
3	
4	• • • •
5	▬
6	
7	
8	• • • ▬
9	
10	▬ ▬
11	
12	
13	• • • ▬ ▬
14	
15	
16	• ▬ ▬ ▬
17	
18	
19	• • • ▬ ▬ ▬



WHITE RABBIT



MACAW

First, you have to learn to read and write numbers as the Maya used them. In the list on the left, some Maya numbers are already written in. Use them to learn how to write the other numbers from 1 to 19.
Now you can fill in the missing Maya numbers in the story of Macaw and White Rabbit. Write them in the boxes below each part of the story. At the end of the story, you'll know how old Macaw and White Rabbit are.

I am three years older than my sister White Rabbit. Write, in Maya numbers, my age when she was born.

Four years after White Rabbit was born, my father taught me to carve glyphs in stone. How old was I then?

Five years have passed since I learned to carve glyphs. How old am I now? And how old is White Rabbit now?

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Name_____

Date_____

Social Studies Quiz #2

Mayan Contributions

Directions: Complete each statement with the correct response and then circle the letter of the correct response.

Example: The largest body of water is called _____.
a) an ocean b) a river c) a lake

1. The Mayans were excellent_____ and were one of the first people to use the number zero.
a) artists b) mathematicians c) builders

2. The Mayans were also great _____ because they studied
a) astronomers b) artists c) builders
the stars, the planets, and the movements of the _____.
a) buildings b) sun c) plants

3. The number system the Mayans use is _____ system because they have used it for thousands of years.
a) a new b) an ancient c) a fun

Appendix

The following are related Internet resources that complement this unit:

1) www.halfmoon.org/names.html

This web site will help your students to write their names in Mayan glyphs.

2) www.stevensonpress.com/Maya/monkey.html

This web site is good if you are looking for Mayan myths to teach your students.

3) www.maya-archaeology.org/html/cicom_4_big.html

This web site is a good resource to use when teaching about the Mayan ruins and the different tools archaeologists use to study ancient people.

4) www.members.aol.com/hasawchan/precolart/

This web site is helpful when students are learning about Mayan artwork.

5) www.umaine.edu/hudsonmuseum/copan.bioz.unibas.ch/meso.html

Sources Consulted

Aguilar, Mariola and Kathleen Davin. Hispanic Heritage: A Discover DC Thematic Unit. Washington, DC: Office of Bilingual Education, District of Columbia Public Schools, 1995.

Brill, Marlene Targ and Harry R. Targ. Enchantment of the World Guatemala. Chicago, Ill.: Children's Press, 1993.

Castaneda, Omar S. Abuela's Weave. New York: Lee &Low Books Inc., 1993.

Demarest, Arthur. "Mayan Civilization in Tikal". Professor Demarest presented a lecture to the Fulbright-Hays Seminar Abroad Grantees: Tikal, Guatemala, July 2000.

Galvin, Irene. The Ancient Maya. New York: Benchmark Books Marshall Cavendish Corp, 1997.

Greene, Jacqueline D. The Maya. New York: Franklin Watts, 1992.

Heinrichs, Ann. A True Book Mexico. Danbury, CT: Children's Book Press A Division of Grolier Publishing, 1997.

Irizarry, Carmen. A Passport to Mexico. Danbury, CT: Franklin Watts, 1994.

Lantier-Sampon. My Home Country Guatemala is My Home. Milwaukee, WI: Gareth Stevens Publishing, 1993.

Miller, Marcia K. Literature-Based Map Skills Latin America and the Caribbean Grades 2-4. Sniffen Court Books, 1995.

National Geographic. Far-out Fun/Secrets from the Past: Washington, DC: National Geographic Society, 1979.

Patent, Dorothy Hinshaw. Quetzal Sacred Bird of the Cloud Forest. New York: Morrow Junior Books, 1996.

Prentice, Patrick. Lost Kingdoms of the Maya: Unlock the Secrets of Ancient Civilization, produced and directed by Christine Weber, 60 min. National Geographic Society, 1993, videocassette.

PRONEBI. Matematica Preprimeria Bilingue. Guatemala, C.A.: PRONEBI, 1993.

Richards, Julia Becker and Michael Richards. Indigenous Literacies in The Americas Language Planning from the Bottom Up. Mouton de Gruyter, 1997.

Shalant, Phyllis. Look What We've Brought You From Mexico. Parsippany, NJ: Julian Messner, 1992.

Sheehan, Sean. Cultures of the World Guatemala. Tarrytown, New York: Marshall Cavendish, 1998.

Suchenski, Michelle. July 2000. Ruins of Tikal, Guatemala. Slides From Fulbright-Hays Seminars Abroad Program.